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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KIBLER, VIRGINIA M

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/463,557

Applicant(s)

NATAN ET AL.

Examiner

Virginia M Kibler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-11,13,14,16,17 and 19-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7,9-11,13,14,16,17 and 19-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. The amendment received on 9/22/03 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6, 9-11, 16, 17, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beatson et al. (5,892,824) in view of Marshall (5,774,571).

Regarding claim 1, Beatson et al. ("Beatson") discloses a digitizer having a digitizer surface 114 and an associated pen 74 having a pen tip (Figure 2), a dynamic identification unit 200 for receiving data from the digitizer produced during signing a signature with the pen on the digitizer (Figure 5), calculating signature parameters and permitted variations from the data (Col. 19, lines 23-26), and generating a reference signature record therefrom (Col. 18, lines 7-58). Beatson further discloses a comparator for comparing the received parameters produced during signature with the reference signature record (Col. 19, lines 26-33), and an apparatus for providing an accept/reject response in accordance with the output of the comparator (Col. 19, lines 33-38). Beatson discloses the reference signature record as a dynamic personal signature profile that is updated in accordance with received parameters produced during each accepted signature (Col. 19, lines 39-48). Beatson does not appear to recognize including signature

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parameters being received as a function of time, being dimensionally independent and including a parameter based on a pen position, pressure applied to the pen tip, pen tilt, and a change of relative angle. However, Marshall teaches that it is known to include signature parameters being received as a function of time (Col. 10, lines 32-35), being dimensionally independent and including a parameter based on a pen position expressed in x and y coordinates (Col. 3, lines 32-43), a parameter based on a pressure applied to the pen tip (Col. 7, lines 1-9), a pen tilt parameter measuring a pen angle with the digitizer surface (Col. 8, lines 37-60), and a change of relative angle parameter measuring an orientation of the pen on the digitizer surface (Col. 7, lines 28-36; Col. 9, lines 13-34). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the signature parameters disclosed by Beatson to include the parameters taught by Marshall because they are well known in the art and provide an accurate verification of the person writing the signature. Note, the change of relative angle parameter as claimed could also be considered the slope of the handwritten curve.

Regarding claim 2, Beatson discloses a transmitter for transmitting the calculated signature parameters for authentication and a receiver for receiving the transmitted signature parameters with the receiver being coupled to the comparator (Col. 9, lines 29-45).

Regarding claim 3, Beatson discloses including an encryptor for encrypting the measured parameters to provide an encrypted signature record (Col. 14, lines 65-67) and the dynamic identification unit including a decoder for decoding the encrypted signature record (Col. 15, lines 21-31).

Regarding claim 4, Beatson discloses the reference signature stored on an IC card (Col. 18, lines 7-18).

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Regarding claim 5, Beatson discloses authenticating a signature transmitted over a transmission line as shown in Figure 1 (Col. 9, lines 29-33). Beatson discloses a vendor unit 64 including a digitizer (Col. 12, lines 35-54) and an associated pen 74 (Figure 2). Beatson further discloses a signature authorization unit 68 coupled to the vendor unit by the transmission line (Figure 1). Beatson discloses a dynamic identification unit 200 for receiving data from the digitizer produced during signing a signature with the pen on the digitizer (Figure 5), calculating signature parameters and permitted variations from the data (Col. 19, lines 23-26), and generating a reference signature record therefrom (Col. 18, lines 7-58). Beatson further discloses a comparator for comparing the received parameters produced during signature with the reference signature record (Col. 19, lines 26-33), and an apparatus for providing an accept/reject response to the vendor unit in accordance with the output of the comparator (Col. 19, lines 33-38).

Regarding claim 6, Beatson discloses a cardholder unit 64 including a digitizer (Col. 12, lines 35-54) and an associated pen 74 and an apparatus for transmitting the output of the digitizer over the communication transmission lines (Figure 1). Beatson further discloses a signature authorization unit 68 for receiving data from the digitizer produced during signature by the pen on the digitizer, calculating signature parameters therefrom (Col. 19, lines 23-26), and generating a reference signature record corresponding thereto (Col. 18, lines 7-58). Beatson discloses a comparator for comparing the parameters produced during signature with the reference signature record (Col. 19, lines 26-33) and an apparatus for providing an accept/reject response according to the output of the comparator (Col. 19, lines 33-38). Beatson further discloses a vendor unit 52 coupled to the cardholder unit and to the signature authorization unit by the communication

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transmission lines and including a transceiver for receiving the output of the digitizer from the cardholder unit and transmitting it to the signature authorization unit, and for receiving the accept/reject response from the signature authorization unit (Col. 9, lines 29-45).

Regarding claim 9, Beatson discloses a method of authenticating a signature including providing a reference signature record (Col. 9, lines 1-10), signing with a pen 74 on a digitizer tablet 64, calculating signature parameters from data received from the digitizer produced from signing the signature with the pen on the digitizer (Col. 19, lines 23-26), comparing the signature parameters produced from signing the signature with the reference signature record (Col. 19, lines 26-33), and providing an accept/reject response in accordance with results of the comparison (Col. 19, lines 33-38). Beatson further discloses the reference signature record as a dynamic personal signature profile that is updated in accordance with the signature parameters produced during each accepted signature (Col. 19, lines 39-48). The arguments analogous to those presented above for claim 1 are applicable to claim 9.

Regarding claim 10, Beatson discloses encrypting the calculated parameters with an encryption key after the step of calculating (Col. 14, lines 65-67) and decrypting the encrypted parameters before comparing the parameters (Col. 15, lines 21-27).

Regarding claim 11, Beatson discloses providing a reference signature reference including writing the signature on the digitizer several times and calculating signature parameters for each signature (Col. 18, lines 16-33), calculating permitted variation of the signature parameters (Col. 18, lines 51-52), and storing the signature parameters and permitted variation as a reference signature record (Col. 18, lines 53-58).

Regarding claim 17, Beatson discloses providing an accept/reject response including granting or denying access to network resources (Col. 8, lines 16-39).

Regarding claim 20, Beatson discloses comparing signature parameters on parameters received from the digitizer tablet at any orientation and size of signature relative to the tablet (Col. 16, lines 5-30).

Regarding claim 21, Beatson discloses calculating signature parameters on parameters received from the digitizer tablet at any orientation and size of signature relative to the tablet (Col. 16, lines 5-30).

Regarding claim 22, Beatson discloses providing an accept/reject response including granting or denying access to network resources (Col. 8, lines 16-39).

Regarding claims 16 and 19, Beatson discloses providing a reject response when a signature is incompatible with the immediately previous signature (Col. 18, lines 34-39). Beatson does not appear to specify when a signature is identical to an immediately previous signature. However, this would have been obvious in light of Beatson's disclosure to specify rejecting a signature that is identical to an immediately previous signature in order to obtain a plurality of variations to formulate a reference signature record.

4. Claims 7, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beatson et al. (5,892,824) and Marshall (5,774,571) as applied to claim 1 above, and further in view of Fan et al. (5,111,512).

Regarding claim 7, Beatson discloses the reference signature recode including signature parameters and permitted variations. Beatson and Marshall do not seem expressly state storing the parameters and variations as an array. However, Fan et al. ("Fan") teaches that it is known to

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store signature parameters an array (Col. 2, lines 11-15). Therefore, it would have been obvious to one of ordinary skill in the art to have modified the signature parameters and permitted variations disclosed by Beatson and Marshall to include an array, as taught by Fan, because it is routinely implemented in the art in order to store the discrete values.

Regarding claim 13, Beatson discloses the personal signature profile including parameters and personal tolerances based on received parameters produced during a plurality of accepted signatures (Col. 19, lines 39-48 and Col. 20, lines 1-14). The arguments analogous to those presented above for claim 7 are applicable to claim 13.

Regarding claim 14, Beatson discloses the personal tolerances are determined individually for each person according to the variations in the received parameters produced during each accepted signature of that person (Col. 19, lines 39-48 and Col. 20, lines 1-14).

Response to Arguments

5. Applicant's arguments with respect to claims 1-7, 9-11, 13, 14, 16, 17, and 19-22 have been considered but are moot in view of the new ground(s) of rejection.

Other Prior Art Cited

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 5,077,802 to Plamondon for digitizing and segmenting a handwriting movement based on curvilinear and angular velocities;

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U.S. Pat. No. 4,653,107 to Shojima et al. for on-line recognition for a handwritten pattern;

U.S. Pat. No. 4,856,077 to Rothjell for signature verification; and

Brault et al., "How to detect problematic signers for automatic signature verification," ICCST 1989, pages 127-132.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Contact Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

VK

VK
12/20/03

**MEHRDAD DASTOURI
PRIMARY EXAMINER**

Mehrdad Dastouri